

REMARKS

Claims 1-35 are pending in the present application. By this amendment, Claims 1, 17 and 30 are amended. Applicants respectfully request reconsideration of the present claims in view of the foregoing amendments and the following remarks.

I. Formal Matters:

Rejections under 35 U.S.C. § 112, second paragraph

Claims 1, 13-14, 17, 26-27 and 30 were rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite in that “the entity that said contents are based on is not readily ascertainable, i.e. the thermoplastic article, total blend, or else.” This rejection is respectfully traversed. These claims are directed to a thermoplastic article and a blend composition. As such, the weight percents are based on the total weight of the article or the blend composition. The article comprises two components, an unmodified PVOH and a thermoplastic elastomer. The article comprises 1-99 weight percent of unmodified PVOH and 99-1 weight percent of the thermoplastic elastomer. These percentages add up to 100%. These percentages are by weight. It is respectfully submitted that claims directed to weight percents are well known and definite. One of ordinary skill in the art would be able to ascertain the contents of any given article. As one example, in one embodiment, if the thermoplastic article comprised 50 weight percent of unmodified PVOH and 50 weight percent of thermoplastic elastomer, then an article having 30 grams of unmodified PVOH would also have 30 grams of thermoplastic elastomer. As such, it is respectfully submitted that these claims are not vague and are definite. Accordingly, Applicants respectfully request withdrawal of this rejection.

II. Prior Art Rejections:

Claims 1-35 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 4,349,644 to Iwanami et al (hereafter “Iwanami”). This rejection is respectfully traversed.

Claim 1 is directed to, *inter alia*, a substantially water-free thermoplastic article consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer. Claim 17 is directed to, *inter alia*, a thermoplastic article consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer, wherein the thermoplastic article has less than about 2.0 percent by

weight of water. Claim 30 is directed to, *inter alia*, a substantially water-free blend composition consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer.

Iwanami is directed to hydrolyzed ethylene polyvinyl acetate compositions. These compositions have an ethylene content in the range of 20-55% by mole (col.2, lines 29-30).

It is respectfully submitted that Iwanami fails to teach or suggest Applicants' claimed invention. As before, Iwanami teaches a polyvinyl alcohol that has been chemically modified and is, therefore, not an "unmodified" polyvinyl alcohol as claimed by Applicants. The Examiner states that it would have been obvious to substitute any commercially available PVOH for the PVOH disclosed in Iwanami with some reasonable expectation of success. However, the Examiner provides no basis on which to base this finding of obviousness. As clearly set forth in the Specification, to use PVOH in thermoplastic articles, has, in the past, required that the PVOH be chemically modified, that a plasticizer be used, or that water be added. Therefore, in its unmodified form, PVOH has never before been used in thermoplastic applications. Accordingly, there could not have been some reasonable expectation of success when it had never been done before. However, Applicants discovered that unmodified PVOH could, under certain circumstances, be used in thermoplastic applications. This discovery was surprising and unexpected. As shown in the Specification, not all polyvinyl alcohols may be used in a thermoplastic article in an unmodified form. As such, the discovery of those polyvinyl alcohols that could be used was not simple experimentation. To allege that an unmodified PVOH could be substituted for a modified PVOH without any motivation, either express or implied, in Iwanami, especially when there could have been no expectation for success based on the fact that no one before had been able to make such a substitution, can only be based on improper hindsight reasoning. Therefore, it is respectfully submitted that Iwanami fails to teach or suggest Applicants' claimed invention.

The Examiner indicates that the compositions of Iwanami may also contain other thermoplastic resins, such as unmodified polyvinyl alcohol (col. 4, lines 8-38). In response, Applicants respectfully submit that Applicants have amended their claimed invention to recite that the present invention consists essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer. Applicants respectfully submit that the hydrolyzed ethylene polyvinyl acetate compositions in Iwanami would be excluded from Applicants' claimed invention since the

hydrolyzed ethylene polyvinyl acetate compositions would materially alter Applicants' claimed invention. Since the hydrolyzed ethylene polyvinyl acetate compositions are used to form water insoluble molded articles, they would negatively impact the water solubility of Applicants' claimed compositions and articles, thereby negatively impacting the characteristics of the desired final products. As such, any water insoluble material, such as hydrolyzed ethylene polyvinyl acetate compositions, would be excluded from Applicants' invention, as now claimed. In addition, since Iwanami is directed to the formation of molded articles, it would not have been obvious to remove the hydrolyzed ethylene polyvinyl acetate compositions from Iwanami as this would completely destroy the intended purpose of Iwanami – to form a molded thermoplastic product. As such, it is respectfully submitted that Iwanami fails to teach or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that Claim 1 and Claim 17 are allowable over the art of record. Furthermore, since Claims 2-16 and 18-35 recite additional claim features and depend from Claim 1 or Claim 17, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1-35 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 6,262,175 to Jury et al (hereafter "Jury"). This rejection is respectfully traversed.

Applicants' description of the invention may be relied upon as above.

Jury is directed to thermoplastic elastomer compositions containing vulcanized rubber crumb, polyolefin, an elastomer, a vinyl polymer (such as PVOH) and other known additives.

It is respectfully submitted that Jury fails to teach or suggest Applicants' claimed invention. As before, Jury teaches a polyvinyl alcohol that has been chemically modified and is, therefore, not an "unmodified" polyvinyl alcohol as claimed by Applicants. The vinyl polymer having oxygen-containing pendant groups are chemically modified due to the affinity between the oxygen-containing pendant groups and polar sites on the vulcanized rubber polymer (col. 4, lines 38-42). As such, Jury fails to teach or suggest an "unmodified" PVOH. Again, the Examiner states that it would have been obvious to substitute any commercially available PVOH for the PVOH disclosed in Jury with some reasonable expectation of success. However, once again, no basis has been provided upon which to base this finding of obviousness. As clearly set

forth in the Specification, to use PVOH in thermoplastic articles, has, in the past, required that the PVOH be chemically modified, that a plasticizer be used, or that water be added. Therefore, in its unmodified form, PVOH has never before been used in thermoplastic applications. Accordingly, there could not have been some reasonable expectation of success when it had never been done before. However, Applicants discovered that unmodified PVOH could, under certain circumstances, be used in thermoplastic applications. This discovery was surprising and unexpected. As shown in the Specification, not all polyvinyl alcohols may be used in a thermoplastic article in an unmodified form. As such, the discovery of those polyvinyl alcohols that could be used was not simple experimentation. To allege that an unmodified PVOH could be substituted for a modified PVOH without any motivation, either express or implied, in Jury, especially when there could have been no expectation for success based on the fact that no one before had been able to make such a substitution, can only be based on improper hindsight reasoning. Therefore, it is respectfully submitted that Jury fails to teach or suggest Applicants' claimed invention.

Additionally, Jury is directed to vulcanized rubbers that are used for tires, etc. There is, however, no teaching or suggestion to use these compounds in thermoplastic articles, such as films and fibers, and the use of these films and fibers in personal care articles. Finally, Jury uses, at most, 30% PVOH. As such, Applicants are confused as to the basis the Examiner is using Jury to teach or suggest the subject matter claimed in Claims 13-16, 26-29 and 31-35 as there is no teaching and no suggestion in Jury that would render obvious the subject matter claimed in these claims.

The Examiner indicates that the compositions of Jury may also contain other thermoplastic resins, such as unmodified polyvinyl alcohol (col. 4, lines 24+). In response, Applicants respectfully submit that Applicants have amended their claimed invention to recite that the present invention consists essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer. Applicants respectfully submit that the vulcanized rubber crumb in Jury would be excluded from Applicants' claimed invention since the vulcanized rubber crumb would materially alter Applicants' claimed invention. Since the vulcanized rubber crumb are used to form water insoluble vulcanized rubber articles, such as tires, they would negatively impact the water solubility of Applicants' claimed compositions and articles, thereby negatively impacting the characteristics of the desired final products. As such, any water insoluble material, such as vulcanized rubber crumb, would be excluded from Applicants' invention, as now claimed. In

addition, since Jury is directed to the formation of vulcanized rubber articles, it would not have been obvious to remove the hydrolyzed ethylene polyvinyl acetate compositions from Jury as this would completely destroy the intended purpose of Jury – to form a vulcanized rubber product. As such, it is respectfully submitted that Jury fails to teach or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that Claim 1 and Claim 17 are allowable over the art of record. Furthermore, since Claims 2-16 and 18-35 recite additional claim features and depend from Claim 1 or Claim 17, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

III. Conclusion:

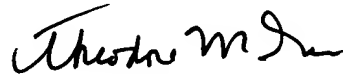
For at least the reasons given above, Applicants respectfully submit that Claims 1-35 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

The foregoing is submitted as a full and complete Response to the Final Office Action mailed November 13, 2002, and early and favorable consideration of the claims is requested.

Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is respectfully requested to contact Applicants' representative at the telephone number listed below.

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 11-0855.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amendments in the Claims

In accordance with 37 C.F.R. 1.121(c), the following versions of the specification and claims as rewritten by the foregoing amendments show all changes made relative to the previous version of the specification and claims.

In The Claims:

Please amend the claims as follows:

1. (Amended) A substantially water-free thermoplastic article [comprising] consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer.

17. (Amended) A thermoplastic article [comprising] consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer, wherein the thermoplastic article has less than about 2.0 percent by weight of water.

30. (Amended) A substantially water-free blend composition [comprising] consisting essentially of from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer.